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appear from preliminary measures by Miss Burwell to be displaced 4.3 Angstroms to the violet.

The spectra are very similar to those of *Nova Aquilae* III taken on June 10 and 11, 1918, except in the width of the bright bands and the displacement of the absorption spectrum. The width of the bright bands is 8.5 at $H\gamma$, and the displacement of the absorption lines is 4.3 Angstroms in *Nova Ophiuchi* as compared with a width of 46 Angstroms and a displacement of 23.6 Angstroms in *Nova Aquilae*. The bright bands are more numerous in *Nova Ophiuchi*.

W. S. ADAMS,
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THE SPECTRA OF TWO ALGOL VARIABLES OF LONG PERIOD

SX *Cassiopeiae* ($0^h5^m.5$; $+54^\circ20'$: 1900) and RX *Cassiopeiae* ($2^h58^m.8$; $+67^\circ11'$: 1900), with periods of 36.5 and 32.3 days, respectively, which have been suspected of belonging to later spectral classes than most of the Algol variables, have been observed by us for the determination of the absolute magnitude. The very low density of these stars as computed by Shapley¹ makes them of especial interest.

The spectrum of SX *Cassiopeiae* on five plates taken with the 100-inch telescope and 18-inch camera shows only one component and the range in velocity is about 75 kilometers. The spectrum is very much like that of *a Cygni* with many rather poorly defined enhanced lines and hydrogen lines of moderate strength. Some 40 lines have been measured and found to be identical in almost every case with those of *a Cygni*. The star will be followed further with a view to the investigation of its orbit.

The spectrum of RX *Cassiopeiae* is very similar to that of W *Serpentis*² which has heretofore been classed among the Cepheid variables but which also has a symmetrical light curve. The hydrogen lines $H\beta$, $H\gamma$ and $H\delta$ are bright with the centers reversed. The red edges are stronger than the violet and $H\beta$ is the strongest of the three lines. In other respects the spectrum seems to be of type G3. Two plates taken with the 60-inch telescope and 7-inch camera show a range of 11 kilometers from maximum to minimum of light. The spectrum of only one component is shown.

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¹Contributions from the Princeton Observatory, No. 3, 1915.
²P. A. S. P. 30, 306, 1918.